

From glowbugs@theporch.com Sun Dec 10 20:51:24 1995  
Return-Path: glowbugs@theporch.com  
Received: from uro (localhost.theporch.com [127.0.0.1]) by uro.theporch.com  
(8.7.3/AUX-3.1.1) with SMTP id UAA02300; Sun, 10 Dec 1995 20:48:46 -0600 (CST)  
Date: Sun, 10 Dec 1995 20:48:46 -0600 (CST)  
Message-Id: <199512110248.UAA02300@uro.theporch.com>  
Errors-To: ws4s@midtenn.net  
Reply-To: glowbugs@theporch.com  
Originator: glowbugs@theporch.com  
Sender: glowbugs@theporch.com  
Precedence: bulk  
From: glowbugs@theporch.com  
To: Multiple recipients of list <glowbugs@theporch.com>  
Subject: GLOWBUGS digest 44  
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas  
X-Comment: Please send list server requests to listproc@theporch.com  
Status: 0

#### GLOWBUGS Digest 44

Topics covered in this issue include:

- 1) Building Tubes  
by Jeffrey Herman <jherman@hawaii.edu>
- 2) Re: inrush current  
by mjsilva@ix.netcom.com (michael silva)
- 3) Hello  
by KB9VU@aol.com

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Date: Sat, 9 Dec 1995 20:33:31 -1000  
From: Jeffrey Herman <jherman@hawaii.edu>  
To: Glowbugs List <glowbugs@theporch.com>  
Subject: Building Tubes  
Message-ID: <Pine.SV4.3.91.951209200705.13661A-100000@uhunix5>

>From jcreid@CCGATE.HAC.COMFri Nov 17 09:09:11 1995  
Date: Fri, 17 Nov 1995 09:06:52 -1000  
From: jcreid@CCGATE.HAC.COM  
To: Multiple recipients of list <boatanchors@theporch.com>  
Subject: Building tubes

I'm in agreement with John Martin. I think it's totally possible to build some relatively crude vacuum tubes with a minimum of investment. I think finding the right materials and keeping them free of oxidation, water vapor, etc. will be the toughest part. The book I've been reading describes a machine used for vacuum tube manufacture and the bulb evacuation system was fairly simple. Only

a vane type vacuum pump was used, no diffusion pumps. The final outgassing was done by firing a barium or magnesium getter. The author states that a 64 port table(the whole thing rotates through a sequence of operations) could deliver approximately 300 tubes an hour. John, maybe we can share some ideas at the SCARS meet tomorrow?

-Jim N6SVS  
jcreid@ccgate.hac.com

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Date: Sun, 10 Dec 1995 10:23:56 -0800  
From: mjsilva@ix.netcom.com (michael silva)  
To: glowbugs@theporch.com  
Cc: brucerob@epas.utoronto.ca  
Subject: Re: inrush current  
Message-ID: <199512101823.KAA22070@ix9.ix.netcom.com>

You wrote:

>  
>I noticed in my 1953 ARRL Handbook that hollow rectifiers are rated  
>with max current, but no inrush current which is the bugaboo for  
>silicon diodes (i.e. the current that comes when the rig is turned on  
>and the filter caps give basically a dead short for a millisecond).  
>Thinking about this, I figure that hollow rectifiers slowly come on  
>line as the filament heats up, so this isn't a problem. Am I right?

Yes, the slow turn-on of high-vacuum rectifiers is enough to avoid this problem. It seems to me that mercury rectifiers are another matter, since they are supposed to be fully warmed up before B+ is applied, but I've never used them so I don't know for sure. As far as silicon rectifiers, with small transformers the internal resistance of the transformer is enough to protect the diode, but with larger transformers some form of external protection is best. Somebody on the BA list pointed out last month that Digikey has surge-limiters (for about \$2) in the range of 1 to 20 amps. These have a cold-hot resistance range of about 30:1, and they can just live permanently in the primary circuit.

I also seem to remember that high-vacuum rectifiers can have their lives seriously shortened if they're connected to a capacitor-input filter with an input capacitor that's "too big", due to the high current charging pulse that must pass through the rectifier every cycle, but I don't remember the details.

73,  
Mike, KK6GM

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Date: Sun, 10 Dec 1995 17:17:20 -0500  
From: KB9VU@aol.com  
To: glowbugs@theporch.com  
Subject: Hello  
Message-ID: <951210171717\_69185331@emout05.mail.aol.com>

Greetings! Just joined. Located near St. Louis and use Collins and Drake  
hollow state gear.

Mike, KB9VU

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End of GLOWBUGS Digest 44  
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